Research in the Curriculum

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Hollis L. Caswell, dean of Teachers College, Columbia University, stresses the need for increased emphasis on curriculum research and suggests next steps in achieving this more adequate emphasis. This paper was read at the Teachers College Alumni Dinner in Denver, February 14.

ONE of the most interesting features of the modern curriculum movement is the introduction of scientific research procedures. High hopes were held for years that research would provide the key to unlock the door to a demonstrably superior curriculum. The nature of this hope was mirrored in a book written in 1930:

> In searching for means through which to attain clearly conceived ends, the educational engineer determines by a scientific experiment which will most economically serve his purpose. When he is obliged to choose between a course in economics and one in history as a means of developing abilities needed in citizenship, he does not make his choice on the basis of tradition or of armchair philosophizing, but sets up an experiment in which he uses one kind of subject matter with one group and the other with the other group, keeping all other conditions the same for the two contrasted groups, accurately measures his results from the two kinds of materials, and chooses for future uses the one which more largely achieves the ends he is seeking . . . throughout the whole range of education we are moving toward the time when we shall have subjected to scientific tests all of our vital alternatives.[1]

Historical Development

This view was by no means universally held at that time, but it suggests a widespread attitude toward the goal which the scientific method would help achieve in curriculum development. For two decades following 1910 there was great faith that research would lead the way to a curriculum plan which would be shown with a high degree of conclusiveness to be the best that could be developed. During these years hundreds of studies were conducted. Social usage, activity analysis, word counts, methods of teaching, and a multitude of other areas were made the subjects of analysis.

The first issue of the *Review of Educational Research* published by the American Educational Research Association was in January, 1931. It was devoted to the curriculum. In the foreword to this issue it is stated that "the Editorial Committee . . . was faced with an embarrassment of riches." Also during this period experimental schools were given great emphasis as agencies for curriculum experimentation. The common view was that they would point the way toward practices that, having been observed and read about by people in other schools, and having been seen to be good, would be widely introduced throughout the nation.

Following 1930 it is my judgment that there was a gradual waning of confidence in research and that in the 1940's there was a drop in concern which, at present, makes the question

[1] Peters, Charles C. *Objectives and Procedures in Civic Education*. New York: Longmans, Green and Co., 1930, p. 21.

of the future of curriculum research one of the critical points in our field. I cannot document this view in conclusive terms. I can say that my feeling in this matter has been confirmed through conversations with several other persons who are well informed on curriculum trends and research developments. An examination of the last issue of the *Review of Educational Research* devoted to the curriculum, June, 1948, shows that the contents of a large proportion of the references cited are general discussions of various phases of the curriculum. Comparatively few sources are cited that present rigorous analyses of clearly defined and delimited problems.

Problems We Face

But whether or not emphasis on curriculum research has decreased during the past fifteen or twenty years, it is my conviction that there is all too little attention given to it now. Many problems that we face in curriculum development today cry out for better solutions than our schools generally are providing. Competent research is essential to making needed improvements. For example, an area of great importance is finding out more about how schools can actually change the curriculum.

How Change the Curriculum?

For years curriculum workers relied almost exclusively on courses of study to make changes in practice. Finally they realized that there was a tremendous gap between writing a course of study and modifying the experiences children actually have. There followed an inclination on the part of many to look on all published curriculum bulletins as a liability. The plain fact is that today we have little more reliable evidence on the values and dangers of various types of written materials as a means of changing the curriculum than we had twenty years ago. We have opinions based on general experience, but we know how often general experience unchecked by scientific inquiry has led men astray.

Lag in Practice

We have known for a long time that a major problem in curriculum improvement is the lag that exists between the practice in outstanding schools and that in the great rank and file. Yet, so far as I know, we have made no detailed analysis of the nature of this lag, of the factors which lead some schools to change and others not to, or of how improvement can be speeded. Professor Paul Mort has opened up this field from the standpoint of administration. Under his guidance a series of most suggestive studies has been made. This problem of lag is more important, if anything, for the curriculum than for administration, and yet we have had no comparable effort by curriculum workers to increase the body of reliable knowledge on problems in this area. In fact, it is difficult to find a single study of procedures of curriculum change that makes substantial use of recognized methods of scientific inquiry.

Other curriculum areas in which the need for research is great could readily be cited, but that is not my main purpose tonight. Rather, assuming that my hypothesis that there is need for increased emphasis on research is sound, I wish to raise the question as to what

some of the things are that we can and should do to achieve in the years ahead this more adequate emphasis.

Research Methods

One point we should examine with care is the matter of research method. As research in education developed following 1900, the standards and procedures of physical science research were largely looked to for guidance. In the curriculum, work was of two major types—analytical studies such as word counts and activity analysis, and experimental studies of teaching methods and various plans of curriculum organization. For some time the influence of the analytical type of study was quite significant in that it contributed to the elimination of a great deal of "dead wood" in the curriculum. At present, however, few of the most critical curriculum problems can be solved through this approach. Thus, reliance now seems to rest to a large extent on experimentation.

But difficulties were encountered with the application of the experimental method to curriculum problems. These resulted to a considerable extent from the attempt to use the laboratory method of the physical sciences. This method had several major characteristics, two of which were of special significance as experimentation in the curriculum developed.

Setting of the Experiment

In the first place, the matter to be studied was taken out of its usual setting and placed in an artificial one. The purpose of this was to make it possible to apply the typical physical science research method of controlling all variables except the factor being studied. For example, if a particular teaching method were being studied, the effort would be to equalize all such factors as class size, differences among teachers, and differences among pupils. The result was then presumed to have wide applicability. But the plain fact is that experience showed this not to be the case. When the method studied in the laboratory setting was applied in usual situations, other factors were not constant. Teachers did differ, and class size varied. In brief, laboratory conditions could not generally be reproduced in field situations where the results were supposed to apply, with the result that the research findings were not applicable.

This difficulty was encountered not only with research which dealt with specific, limited problems, but also with the work of experimental schools. As they tended to operate in settings which often involved highly selected student bodies, atypical community relations, and instructional facilities not characteristic of most schools, use of the results of the experimental work involved the same difficulties as other laboratory type experimentation.

Now, it is my belief that the laboratory approach has only limited value as a method of curriculum research. It will never be possible to hold the variables in curriculum development constant. Rather, it is necessary to find out what the variables are, how they affect the achievement of your purpose, and what adjustments are needed to various types of conditions. Curriculum research should be undertaken in situations that are representative of those in which it is expected the results may

have influence. Then the applicability of findings can be made obvious.

Rather than limiting the study of a problem to one type of situation, it is desirable to study it in many types of situations which are as widely representative as possible. For example, if you wish to test means of developing desirable understanding and attitudes toward minority groups, studies may desirably be undertaken in schools serving communities with various minority groups, with various economic and social settings, and with teachers of varying degrees of interest and competence. One of the most important features of such a study should be to discover how these varying factors which are present in all school situations influence solution of the problem with which you are dealing.

Teacher Participation

In the second place, the laboratory approach to research attempted to neutralize the participants in the research. Following this lead, much curriculum research in the past was conducted with the teachers who were involved knowing little or nothing about the purpose or design of the work. Most curriculum workers have come to recognize that the single most important influence on the curriculum is the teacher and that the purposes that guide teachers are of critical importance in determining everything they do. In other words, good teaching is a process which never can be reduced to the relatively mechanical and routine application of a set of procedures.

Consequently, the assumption that the participants in curriculum experimentation should be neutral is wholly unsound. The experiment can be fairly tested only if they understand the purpose and share in its appraisal, for the results can have significance in other situations only if the purpose is similarly recognized and accepted by the teachers undertaking to profit from the results. It is my belief that the effort to neutralize the purposeful efforts of teachers and pupils accounts for much of the ineffectiveness of research in the past. In the future I believe a substantial amount of participation is needed in order to achieve results that can have wide applicability.

Action Research

There is a highly encouraging movement toward fundamental revision of research procedures in the curriculum now in the initial stages of development. I refer to the approach commonly called action research.* Unquestionably this approach is coming to grips with some of the serious limitations of the laboratory procedure emphasized earlier. I am hopeful that it may contribute to a revival of interest in curriculum research. As this approach is tested further, there is one point that I hope may receive increased attention. The significance of research is directly related to the generalizations which are developed. Even a case study, from the standpoint of research, is significant because of what it may suggest about other similar cases, and the importance increases as added case studies begin to provide a sound basis for generalizations.

*See Stephen M. Corey. "Curriculum Development through Action Research." *Educational Leadership*. VII: 147-153. December. 1949.

Importance of Generalizations

I believe that the action research approach must give most careful attention to the development of sound generalizations. Otherwise the studies simply become projects in local curriculum improvement. In research dominated by the laboratory method great attention was given to techniques that would assure reliable generalizations. Techniques will no doubt differ in many respects in research centered in operational or action settings, but the need to devise and utilize sound ones is no less great than it is in dealing with problems that can be appropriately studied by laboratory techniques.

Personally, I do not like the distinction that is drawn between action research and fundamental research. It seems to me that work that has the characteristics of action research is quite as fundamental as the so-called fundamental research. The distinction is in many respects comparable to that between pure science and applied science research. The curriculum worker is concerned with solving a problem which will lead to improved practice. Applied science research has the same central purpose.

Importance of Basic Disciplines

Research in various disciplines which are basic to the curriculum, such as child development, psychology of learning, and sociology is directed to the extension of knowledge, regardless of immediately obvious practical implications. Similarly, pure science research is centrally concerned with the extension of knowledge in the various sciences, regardless of practical application.

Consequently, it seems to me that we are finding in our field the same situation that characterizes a field like agriculture. Agricultural research is primarily concerned with improving practice in farming. It depends on a group of disciplines. It draws relevant knowledge from these supporting fields and develops new knowledge about agricultural processes. Curriculum research relates in much the same way to the various fields upon which it draws.

Limitations In Curriculum Research

Inadequate Personnel

In looking back at curriculum research there is another characteristic that very probably contributed to the decreasing emphasis over the past decade or two. It seems evident to me that an overwhelming proportion of the studies conducted, even during the 20's, was done on the fragments of time that people with other major responsibilities could draw upon. The conviction that fame and fortune lay down the research road led many college teachers and some members of staffs of school systems to squeeze out a little time from already heavy, full-time schedules, add some night work and vacation time, and get out a research study or two. More often than not funds to support even these efforts were not available. The greatest amount of effort probably came from graduate students making studies for the doctorate.

The limitations surrounding research at this stage are too well known to require comment. The whole situation adds up to the fact that there has been

no competent group of individuals in position to make research on the curriculum a major and continuing concern. It is my belief that so long as this is true, research achievements will be severely circumscribed.

I have already mentioned the complexity of the curriculum problems we face today. Research techniques have also greatly increased in difficulty and undoubtedly there is great need for the devising of procedures more appropriate for study of the curriculum. A further difficulty arises from the fact that the curriculum, as mentioned before, rests on a variety of disciplines. It is inevitable that considerable knowledge of these supporting fields is needed in much curriculum research. It all adds up in my thinking to the conviction that much of the most important research on the curriculum requires the cooperation of a team of specialists working with those in a field situation.

Thus, it becomes a matter of major importance that research be made a recognized part of the work of some within our field, that the competences needed for sound work be canvassed, and plans be devised for bringing these competences to bear over extended periods of time. Some useful things can be done on the time that can be freed from other duties, but the need for broad-scale fundamental study of curriculum problems cannot be met in this manner.

Allocation of Funds

It is interesting to check on the funds that are allocated for curriculum research and experimentation. In many schools of education and school systems no funds at all are specifically allocated for this purpose. In many cases even if a staff member is willing to put in time outside of regular duties, clerical help and materials cannot be secured.

Compare this situation with that which is present in the physical sciences or medicine or agriculture. Millions of dollars are specifically earmarked for research activities in these fields. Thousands of workers make a career of research. In the Land Grant Colleges over 22 percent of their budgets are devoted to reseach. At Teachers College 7 percent of our budget is for organized research, and this probably is a substantially higher amount than in the great rank and file of colleges of education over the nation. In fact, for the year 1945-46 the 253 teachers colleges in the United States, with total budgets exceeding 48 millions, spent only slightly over $100,000, or .2 of one percent, on all organized research activities.

It is a striking fact that we pour millions of dollars into research to find out how to raise better hogs and cattle and wheat and corn but such a paltry sum into how to provide better education for our children that there is only a handful of full-time research specialists in education in this entire nation. Somehow or other, if research is to be accorded a desirable emphasis in curriculum development, schools of education and school systems must get funds in their budgets earmarked for research personnel and projects. As I view the situation, it is most important to do this.

Shared Responsibility

In the past the conduct of research designed to improve the curriculum has

been looked on primarily as a university function. Most of the larger school systems have some sort of research bureau, but for the most part their bureaus have done little in the way of curriculum research. Testing programs designed to provide evidence for the use of supervisory personnel and for publicity represent about the closest approach to the curriculum.

In the future, if curriculum research is to be accorded reasonable attention, it is my judgment that school systems must share with universities the responsibility for its development. It seems to me that it is reasonable to expect school systems to do this. They have the ultimate stake in finding ways of improving the curriculum and they control the situations in which research must be done. By broadening their sense of responsibility to include not only providing at a given time the best possible education for the members of their communities, but also contributing in some small degree at least to the general advancement of education, they will in the long run best serve their own communities.

Through such a cooperative sharing of responsibility universities could provide one part of the necessary research team—the research specialists in supporting disciplines, in research methodology, and in curriculum problems—while school systems could provide the other necessary part of the team—the teachers working with children, the supervisors who assist in planning and appraisal, and the curriculum director who contributes general direction and guidance. A substantial move in this direction by school systems would greatly stimulate sound methodology for curriculum research and also increase resources for its development. The establishment of policy in this area with implementation by budget provision and a cooperative arrangement with some university should become a concern of every forward-looking school system in this country. Provision of full-time curriculum research workers and stimulation of school systems to join in cooperative programs should be a policy of all graduate schools of education.

Implementation of Results

Through the years a constant difficulty has been encountered in getting such research results as have been available accepted as a basis for action by schools generally. Unquestionably we *know* much better than we *do* in the majority of our schools. Many plans have been devised for the implementation of research results. Out of all the experience with this problem as related to the curriculum, one dominant conclusion emerges. School staffs that have experience in experimentation are most ready to utilize the experimental work of others. And conversely, school staffs that tend to accept the existing program with little question are not readily influenced to make changes by reports of the experiments of others. Thus, the approach to curriculum research which I have suggested would probably make a major contribution to the implementation of research results by stimulating on a widespread basis the experimental attitude among school staffs.

In conclusion, let me say that in any field of activity which is to be recognized as a profession, research must play an important role. Unless the field

involves a subject matter of such complexity that new and improved theory and practice are constantly called for, it can be no more than a trade. Education without doubt affords the complexity of subject matter to justify status as a profession, but the extent and effectiveness of research leading to improved theory and practice leaves much to be desired. We have followed some blind alleys; we have sometimes permitted available techniques to dictate the selection of problems for study; in brief, the shortcomings of our research efforts are great. But let us not discount the importance of this phase of our professional endeavor. In the long run success in this area is perhaps more vital than in any other in assuring the professional status of teaching. I feel confident that as curriculum workers we may most desirably give more attention to research during the next decade than we have during the past.

What Help Do Teachers Want?

VERNON L. REPLOGLE

Too frequently supervisors assume that teachers "need" certain kinds of help without any evidence that they actually do. Vernon L. Replogle, principal of the Central School in Wilmette, Illinois, went directly to teachers to determine what their concerns really are, and reports what he discovered.

THE DISTINCTIVE PURPOSE of supervision is to help change teacher behavior in ways that will provide children a better quality of learning experiences. If this be true, it follows that the supervision which improves teacher behavior most is the best supervision. How then does one proceed to supervise best? How does one secure maximum change in teacher behavior?

Research has furnished us considerable knowledge relative to motivation goals, learning principles, mental health, feelings, and the human personality. We are in possession of much more knowledge than we currently use.

For example, it has long been an accepted—though sparingly practiced—principle that to bring about behavior change in pupils one must begin with their problems, concerns, and tensions —and nowhere else. There is abundant evidence to show that those teachers who make the concerns and problems of boys and girls the beginning point in teaching and who continuously relate their teaching to pupil needs have less motivation trouble, maintain higher morale, and in the end attain more and better learnings than do those teachers who ignore the problems, concerns, and tensions of their pupils.